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## Foreign Miscellany.

### AN ESSAY ON THE PAST AND PRESENT STATE OF FORTIFICATIONS IN EUROPE.\*

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Let us now return to Vauban. This distinguished individual did not publish any of his ideas upon fortification. But the French engineers possess, and justly prize, many manuscript memoirs which he left behind him relative to the fortresses of that country. His beautiful and numerous constructions speak for him. It is generally considered that the best illustrations of his principles occur at Lisle, Strasburg, Landau, and especially at Givet. He built Dunkirk, Maubeuge, Longwy, Saarlouis, Pfalzburg, Belfort, Huninguen, Bayonne, Rochefort, Brest, Montroyal, Fort Louis, Mons, Briançon, Fenestrelles, Mont Dauphin, Neuf-Brisack, Menin, Ath, Charleroi; the citadel of Arras, the forts of St. Nicholas, St. Jean Pied de Port, Andrye, St. Martin. He more or less altered and improved the fortifications of Charlemont, Sedan, Bitche, Lichtenberg, Petite Pierre, Hagenau, Schattstadt, Besançon, Pignerol, Casal, Belle Isle, Luxembourg, and others; and, finally, during his service of fifty-seven years, was present at one hundred and forty engagements of different kinds, and at fifty-three sieges.

This era forms a very marked and prominent resting-place in the history of fortification. It constitutes, indeed, such a connecting link between the ruder sketches of the earlier engineers, and the well-established form which the art has since assumed, that we may be permitted to pause for a while, and consider the state in which Vauban found the different works which constitute a regular fortress, together with the improvements which he either proposed, or actually made in each.

We may premise that his simplification of the methods previously in use for tracing the ground-line of fortified towns, has met with general approbation.

His alterations in the bastion are chiefly instructive, as showing the gradual change wrought in his mind by reflection and experience. He began by making the faces one hundred and fourteen yards in length, which he first increased to one hundred and eighteen yards, and subsequently to one hundred and thirty-one.

In so doing he was enabled to place the shoulders more under the protection of the demi-lune, and at the same time to obtain a fire from that part of the face of the bastion near the shoulder, for the defence of the ditch of the redoubt. If, on the one hand, this arrangement had a tendency to diminish the length

of the flank, yet on the other, he did not neglect the precaution to retain it of such a length as to enable that important line to contain at least as many guns as the besieger had room to place in his counter-battery on the opposite crest of the glacis.

In the commencement of his career he adopted the orillon of his predecessors, but improved its dimensions; and, by making the retired flank concave, caused its battery to receive as many pieces of artillery as a straight flank without orillon. Instances of his construction with orillons were to be seen in the citadel of Strasburg, in the places of Huninguen and Maubeuge, and a few others. Cormontaigne has left a note, showing that these flanks with orillons, according to a contractor's estimate, were built at an expense of about £1,400 each. A straight flank, without orillon, appears from the same document to have cost about £800; thus the one was nearly twice as expensive as the other. A due consideration of this circumstance, added to the little real advantage which was found to result from the work, owing to its great exposure to both vertical and reverse fire, induced Vauban afterwards to abolish it, which he could do with the more safety, as the increased length of the faces of the bastion, and wider extension of those of the demi-lune, afforded so much more cover to the shoulders.

These different alterations in the bastions, by enlarging their interior, permitted a corresponding change in the cavalier, which Vauban was not slow to discover and adopt. Most of these works hitherto built were small rectangular forts, placed indiscriminately on the curtains and bastions. He confined them to the latter, increased their size, made them conform in outline to that of the work in which they were erected, and, finally, by reveting them in some cases, indicated to his successors one of their greatest modern sources of strength. He does not appear to have contemplated the probability of these works serving as retrenchments to those in which they were placed, but rather to have employed them with a view of defiling the adjacent curtains, and covering the flanks from reverse fire, in addition to their already recognised advantage, namely, that of searching into hollows, and commanding the distant operations and reconnoissances of the attack.

In tracing the flanks of his bastions so as to form acute angles with their lines of defence, it was Vauban's intention that they should take in reverse the storming party of the besieger as he mounted the breach, or proceeded to form his lodgment there. His predecessor, Pagan, as well as most of his successors, preferred them at right angles to their lines of defence, in order to sweep the main ditch by a more direct fire. It does not seem, however, that the dif-

\* Continued from page 687.

ference can be of much moment. If the calculation is meant to apply to a defence by artillery, the splay or gradual opening of the embrasures permits a perfect view both of the breach and main ditch in either construction of the flank; if, on the other hand, to musketry, we do not consider ourselves obliged to follow implicitly the dogma repeated over and over again in books upon fortification, that the soldier at all times, but more especially at night, or after much smoke has arisen to obscure the view, fires straight before him.

We cannot suppose that much reliance could be placed on troops who would thus blindly throw away their fire; and if the men cannot see their object, we conceive that it would be better not to fire at all. They are as likely to injure friends as foes; and half the loss in a defence conducted upon such principles must arise from the vaguely-directed fire of the garrison itself. We are persuaded that well-disciplined troops, commanded by intelligent officers, may reasonably be expected to pour a steady fire of musketry, either directly or obliquely, into any work within range, and at night their line of direction can be indicated by an occasional fire-ball pitched into that work.

Two works hitherto much in use, the faussebraie and the chemin des rondes, were suppressed under the direction of Vauban. These were both of them spaces at the foot of the exterior slope of the parapet, the faussebraie being about double the breadth of the other, and being covered by a breastwork of earth, instead of by a wall or merely a thick hedge, as in the case of the chemin des rondes. With respect to the latter work, it is remarkable that Vauban, at a more advanced period of his life, expressed great regret at having omitted it in his latest constructions; that Dufour, who is one of the best authorities we have upon the subject, is in favor of it; that Carnot advocates its use, and employs it in his constructions; and that Sir J. Jones likewise became a convert to its advantages, from his own observation during the memorable sieges in Spain. He informs us that when the French made preparations to defend a thick parapet against assault, it was their custom to make cuts in it two or three feet wide, parallel to the exterior crest, and at two or three feet from it. From these cuts the defenders were enabled to fire straight down into the ditch upon the storming party, or use the bayonet hand to hand with the assailants as they mounted to the tops of the ladders. From them, also, they could throw down the ladders or drop-shells, hand-grenades, tar barrels, and combustibles at their very foot; and, in fact, a few steady fellows, well supplied with missiles, and supported by their comrades on the ramparts behind, had it in their power to do a vast deal of mischief. Sir J. Jones is of opinion that all these advantages were gained by the chemin des rondes, with the additional one of adding, at small expense, to the height of the escarp, with its consequently increased difficulty of escalade, and of rendering the breach less easy to form by the parapet being thrown so much back. The decided opinions of these distinguished engineers render it superfluous to offer any of our own; but it may not be uninter-

esting to enumerate some of the reasons which induced Vauban to abolish the work, and which afterwards yielded in his mind to those which in after times were to influence so many of his successors. They are that the chemin des rondes diminishes the breadth of the terreplein of the rampart on one side, or of the ditch on the other; that its wall prevents the missiles rolled over the parapet from reaching the assailants in the ditch, that it forms a step, as it were, for the attacking party to form in good order, and thence extend themselves right and left to envelop the work, by which means they could turn any retrenchments existing in those places around which the chemin extended. May we be permitted to add to this, that the most usual mode of building scarp revetments is to make them just so high as to be concealed from the country by the glacis. That, consequently, if the command of the glacis were eight feet, the top or cordon of a well-constructed scarp revetment would be six or seven feet above the level of the ground; and that, hence, if the wall of the chemin des rondes were to be added to that height, so as to give the advantage of increased difficulty of escalade, the whole of such wall must be exposed to the full view of the besieger from a distance over the crest of the glacis. If, on the contrary, the revetment and wall were to be lowered so as to be covered by the glacis, it is evident that all advantage as regards escalade would be lost. Moreover, it would even then be possible, by a pitching fire, to ruin such part of it as might be judged necessary before giving the assault; in which case the real revetment to be escalated would be six feet lower, instead of higher, than those of the usual description. There can be no difference of opinion as to the benefits arising from throwing back the parapet; and the advanced fire of musketry upon the besieger's lodgments on the crest of the glacis, and through the embrasures of his breaching and counter-batteries, cannot fail to be a valuable auxiliary to the defence.

It is, nevertheless, open to candid discussion, whether the faussebraie, presenting no uncovered masonry to the view of the besieger until he has crowned the covert-way, is not, upon the whole, capable of securing the same results, while it is, at the same time, liable to fewer objections. We have already stated the reasons which were adduced by Vauban for doing away with the faussebraie, being (in common with the chemin des rondes, let it be remembered,) its command by the glacis, the facility which it affords to the assailants for spreading along its terreplein and turning the works in rear, and likewise the liability of that terreplein to be blocked up and rendered untenable. But, for inquiry's sake, let us suppose a faussebraie applied to a work having a ditch in its front of twenty-four feet depth beneath the horizontal level of the ground, and that the terreplein of the faussebraie be on that level. If we then give to its parapet a height of seven or eight feet above its terreplein—that is, equal to the glacis—the inferiority of command not only disappears, but we have it in our power to make its scarp revetment from twenty-four to thirty feet high, without the least exposure. It would further be practicable to revet the

inner work to the same height as the parapet of the faussebraie, because it would be covered both by the latter and by the glacis.

Let us imagine a practicable breach to be made in such a faussebraie. The besieger mounts it with the intention of spreading along the terreplein, and climbing over the parapet of the inner work; but he finds a seven foot wall in his front, which, covered as it has been by a double parapet, can be but little injured, and which will prove a sufficient obstacle to armed men, unless, in storming the beach, they have carried scaling ladders with them. Now, we have entered into a short discussion of this question, because a faussebraie, nearly such as we have been describing, has recently been introduced to notice by Choumara, and, we believe, has found favor among modern engineers.

Vauban, then, suppressed the *chemin des rondes*, to his subsequent regret; and, judging the faussebraie to be incompatible with a good defence, substituted for it the modern *tenaille*. In this work we certainly find none of the weak points commonly ascribed to the faussebraie; for it is totally detached from the body of the place, and is consequently neither liable to be encumbered with rubbish, nor turned to advantage by the besieger in mounting the *enceinte*. It also covers the revetment of the curtain, and the entrance of the postern which leads under that work from the tour into the main ditch, and affords to parties of the garrison a place of formation for various operations, where no fire but that of shells can reach them.

Vauban found the demilunes, and the re-entering places of arms of his time, of very inferior dimensions, as compared with those now to be met with. He ventured to build them of a more suitable size, and placed reduits in them; which, for want of room, he constructed of masonry only in the fortresses already existing, but formed them of earth, with good revetments, in his own more spacious constructions. Those in his demilunes were nevertheless deficient in capacity, as contrasted with those of Cormontaigne and the modern method. Their flanks were so short as only to mount a single gun in each, which was intended to command the breach in the bastion, and contest the besieger's passage of the main ditch. Moreover, the ditch of the reduit having its counterscarp directed upon the shoulder angle of the bastion, could derive but a very imperfect defence from that work; and occupying, as it did, so little of the interior of the demilune, a great and unnecessary space was left between the two works, which offered considerable advantages to the attack, by giving room for batteries and lodgments in every direction.

Vauban's predecessor, the Count de Pagan, had certainly improved the demilune by directing its faces to the shoulders of the bastions instead of to the curtain, as practised by some of the old engineers, or to the curtain angle, as recommended by others. Vauban was not satisfied with this mode of tracing the work, because it did not cover the shoulders of the bastion sufficiently, and because it laid open the passage between his *tenaille* and the flank of the bastion, to enfilade from the faces or *terreplein* of the re-en-

tering places of arms, thus endangering the communications, and inviting the enemy to breach the curtain through the opening. He, therefore, in the first instance, aligned the face of the demilune upon a point ten yards from the shoulder of the bastion, measured along its face, and thus in some degree accomplished the purpose he had in view. Then, as his idea further developed itself, or as he gradually overcame the prejudices which the most judicious innovator has to encounter, he increased that distance first to twenty yards, as we find it at Besfort and Landau, and ultimately to thirty yards, as at Neuf-Brisack, the last town which he fortified.

In thus extending the faces of the demilune, its salient angle of course became larger, and hence followed another direct advantage; for he found that without too much contracting that angle, it was now in his power to make it project considerably farther into the country. He was fully sensible, towards the close of his life, of the benefit derivable from this circumstance, since we find the saliency of the demilunes successively increased in the three places just mentioned; but still more at Lisle, where some of the demilunes have capitals of more than one hundred and twenty yards, giving a projection as great as that observable in many of the most modern fortresses.

The flanks of the demilune will be best noticed when we come to speak of the improvements in that respect introduced by Cormontaigne; and we close our remarks upon that work for the present, by observing that, in order to prevent the besieger, from his counter-battery at the salient of the bastion, firing down the passage between the *caponnière* and the reverse of the demilune, and seeing into the rear of the latter work, Vauban cut off the whole of the exposed part by causing its counterscarp line to pass through two points, one of which was the salient of the bastion, the other the inner extremity of the flank or face of the demilune.

His alteration of the counterscarp of the main ditch is also judicious, for by directing it to the inner shoulder angle, or that formed by the crests of the parapet, instead of to the outer shoulder angle, or that included by the cordons, he brought the whole of the main ditch completely under the direct fire of the flank of the bastion, and, without any attendant sacrifice, obtained a slight increase of length for the faces of the demilune.

We now come to that interesting part of Vauban's military career, when he who had made such important changes in the mode of attacking places was called upon at length to devise some means of securing the cities of France from the hostile effects of those very improvements which he had been himself the first to suggest, and which he had employed with such brilliant success against others; for the league of Augsburg, between Holland and the Emperor, which was afterwards joined by England, Spain, Sweden, Denmark, and Savoy, seemed so powerful as to deprive France of all hope of carrying on any but a defensive war.

Even so late as the present century, towns carried by assault have been pillaged, with every circumstan-

of the most atrocious violence; and this not from any want of energy or humanity on the part of the commanders, but from the impossibility of restraining men whose savage passions were roused by opposition, and who poured into the city in irregular masses, excited by victory, and finding suddenly, in place of the privations of a camp, the beauty, luxury, and abundance of civilization. In the present conjuncture, Vauban turned his talents to a mode of fortifying, which should save the cities of his native land from becoming a prey to such horrible calamities, and we have the result in his second and third systems.

The tower bastions, which form the main novelty in these two systems, are masonry towers constructed within the ordinary bastions, from which they are separated by roveted ditches. They are quite secure against a coup de main, and, therefore, at the same time provide a safe retreat for the defenders of the bastion, supposing them to be unsuccessful in disputing the breach, and keep in reserve a second enclosure, from which the progress of the assailants can be arrested, and time gained to make terms for the garrison and the assailants. We believe it to be admitted that these objects are gained by the adoption of these works; in addition to which, the cannon on their terrepleins must be of considerable service in opposing the first operations of the attack, while their height causes them, in some degree, to screen the adjacent parts of the curtain from enfilade. Under the terreplein of the tower bastions are casements: those in the face are loop-holed for a musquetry defence of its ditch; those under the flank have embrasures for cannon commanding the ditch in front of the curtain and adjacent tower bastions. The walls which divide the casements from each other are loop-holed, so as to favor an obstinate, step by step, defence of them; and they abut, at their inner extremity, upon a hollow pillar in the centre of the tower, which serves as a powder magazine.

It is very evident that the upper surfaces of such towers, surrounded as they are by stone or brick parapets, and exceedingly confined in space, (being only about twenty-five yards broad from shoulder to shoulder,) would quickly become untenable as soon as the besiegers' batteries, especially of mortars, came into action; and that, consequently, their fire would be of little use either in preventing an enemy's lodgment on the detached bastion, or assisting to defend the breach of that work. The casements themselves are too much depressed to contribute to either of those purposes, and are only of use, as we have already stated, for the defence of the adjacent ditches. The besieger, therefore, having little to oppose him after he has established himself in the detached bastion, may sink a mining shaft behind the counterscarp of the ditch of the tower, and a mine being sprung there would overturn a mass of ruins to choke the embrasures of the casements. He would then give the assault before the garrison had time to remove the mass of rubbish which masked their fire. But it was Vauban's intention that the place should be surrendered before this crisis had arrived, in order that the town might be secured from pillage.

As the casements fill quickly with smoke, it is necessary to relieve the artillermen every quarter of an hour, and to prime with loose powder or powder-horns, instead of tubes. This defect appears to arise, in a great measure, from want of proper ventilation, as we find no mention of funnels for that purpose. Their dimensions do not, in other respects, fall far short of those for modern casements, their length being thirty feet, height to crown of arch twenty feet, and breadth twelve to fourteen feet.

Vauban expressed his dissatisfaction with the inadequate defences made by Landau (constructed according to his second system, with towers) in the sieges of 1702 and 1704; and there appeared to be just grounds for his censure, as in the latter year the place surrendered before even the detached bastions were taken. There was a general impression that the casements were untenable owing to the smoke, which is by no means absolutely the case, as we have shown; and that it is possible to breach and storm the body of the place at the same time as the detached bastions, which may also be disputed. The only breach which can be made in the body of the place, before the detached bastions fall, is in the curtain, by firing through the opening between the tenaille and detached bastion. To arrive at that breach a passage must be made not only across the ditch of the detached bastion, but down the trouée of the tenaille, and across the main ditch; the latter part of it within grape-shot distance of the embrasures in the casements, as yet unsilenced; for they would be masked against the distant batteries of attack, and the masks removed as soon as the head of the besieger's sap appeared beyond the trouée of the tenaille, a time at which he must desist from vertical or ricochet fire upon that point, from the certainty of otherwise injuring his own people. No breach made in the tower, over or through the detached bastion, would be a practicable one; and it would hardly be deemed advisable to storm the breach in the curtain without a lodgment across the ditch, because it is so easily retrenched, and because the attacking party must advance to the assault without any cover, exposed to the flanking fire and missiles of the detached bastion and tenaille, to the artillery of the casements, and to the direct as well as plunging fire of the curtain. It may also be observed that a breach made in the curtain by firing down the trouée of the tenaille would be little more than thirty feet broad, that is, not more than one-half the extent considered eligible for a good breach.

The ameliorations of the covert way, introduced by Vauban, fit that work for a much more active part in the defence than it had hitherto taken. Besides enlarging its re-entering places of arms, he intersected it at regular distances with traverses, which not only protected it in a considerable degree from ricochet, but gave opportunity for a resolute garrison to contest the possession of every inch of it. He endeavored also to determine with precision the exact breadth most suitable for it, under ordinary circumstances, so as, on the one hand, to conceal the scarp of the works behind it, as far as practicable, from the breaching batteries on its crest; on the other, to limit

in the greatest possible degree the space in its interior available to the besieger for his batteries or lodgments. By thus confining an enemy's batteries to the crest of the glacis, they were more exposed to the view of the collateral works, and were made in a great measure to mask the fire of their own ricochet batteries.\*

Had Vauban's claim to the respect of posterity rested upon the merits of the tenuillon, which is a work of his introduction, we believe the title would have been long since disputed. Those great masses of earth and masonry were applied by him to the retired demilunes of his predecessors and of his own early constructions, in the hope of supplying that want of saliency which he judged to be such a grave defect. He gained his object so far, it is true; but these works were raised at a cost much exceeding that which would have been incurred by pulling down the defective demilunes and building larger ones on their sites. In their immense interior the besieger found a field on which he developed the operations of the attack in any manner or direction which suited him; there was nothing to prevent the demilunes and tenuillons from being breached and crowned together; and the enemy, spreading along the face of the demilune, turned the retrenchment of the tenuillon and gained complete possession of it at a risk and labor by no means commensurate with the expense of construction. These reasons have long since determined his successors to make no use of the tenuillon in modern fortresses.

The judicious application of advanced lunettes was apparently well understood by this engineer, who was aware that they were only suitable to large places with ample garrisons, because the detachments, both of men and artillery, for their sufficient occupation and relief, necessarily demanded a great force for their support.

In the horn work, which had been introduced a short time before his birth, he does not seem to have made any improvement. The same may be remarked of the crown work and of the counterguard, which latter partakes so much of the nature of the modern demilune, that we had better defer any further mention of it, until we come to consider the latter under the head of the changes made in it by Vauban's successors.

Although we have devoted what may be, perhaps, considered an undue portion of this article to Vauban, we have neither space nor time, even if we had the power, to do him justice; neither do our limits permit us to dwell upon his very important application of the art to the construction of intrenched camps under fortified places, and of his proposed lines of intrenchment for the defence of France against foreign aggression, nor upon the comprehensive foresight with which he gave to that country on her frontiers a superiority of fortresses, in just the

\* We have here followed the opinions of all writers upon fortifications; but there is good ground for inquiring whether our artillery, which has already achieved such splendid triumphs over theoretical dogmas, would not venture to continue their ricochet while the batteries on the crest of the glacis were playing; that is, supposing such batteries to be sunken ones, or having only one gabion height of parapet.

same proportion as each was, more or less, deficient in natural barriers. Still less can we bestow the attention they deserve upon his different expedients for facilitating the manœuvres and communications of a defensive force by means of roads and canals; the latter of which also, when parallel to the frontier, he considers a most valuable source of defence.

The subject of inundations was not neglected by him; and his simple mode of forming the sluice gates was long in use, and required the mechanical science of the present day to supplant it.

Vauban was born at St. Leger de Foucher, near Avallon, in 1633. He died in 1707; and in 1705, although suffering from the combined effects of age and severe illness, bequeathed as a last legacy to France his Memoir, projecting the junction of the canals of maritime Flanders, with the Lys, the Deulo, the Scarpe, and the Scheldt, in order to consolidate the defences of her northeast frontier.

Nine years after Vauban's death, Cormontaigne entered the French service of engineers, by the officers of whom he is represented as one of the most industrious men the corps had ever produced. They approve, with much justice, of his good sense and moderation, in refraining from the besetting sin and temptation of engineers, that of inventing new system, a practice at one time carried to such an absurd extent, that we read of a certain professor of mathematics, Trincano (enjoying the curious title of "Engineer extraordinary of the King of France for foreign princes,") who published in one year no less than thirteen different systems. Indeed, the French engineers seem to feel that they, more than any other people, are interested in preserving the existing state of things in fortification, inasmuch as their country is covered with strong places; to rebuild each of which would necessitate an outlay of from £50,000 to £200,000.

Cormontaigne, accordingly, applied himself zealously to the study of Vauban in his most esteemed actual constructions; and although, in this point of view, he is only to be considered as a commentator upon his great predecessor, yet, while seeking to improve the methods of the latter, he decidedly advanced the state of the art, not only by real ameliorations in the tracing and profile of fortification, but by his manner of disposing the artillery for the defence, and the well-digested principles which he laid down for the arrangement of systems of countermines.

The practical school of the engineers, established at Mezieres, followed up Cormontaigne's proposed improvements by additions of their own, and both combined form what is called the "modern method," or school of Mezieres. We propose to describe them together under the latter title, for the difference between them is so slight, and they have become so blended together in modern acceptance, that it would be trespassing upon the reader's time to treat of them separately.

Vauban's form of the bastion, as exemplified in his third system, was adopted by this school, with the one exception of making its flanks perpendicular to the lines of defence.

The curtain was lengthened and the flank short.

ened by throwing forward the former a distance nearly equal to the thickness of its own parapet. By this disposition some expense was saved, and that part only of the flank sacrificed which had an oblique and imperfect view of the ditch and breach; by it, likewise, the capacity of the interior of the fortress was slightly enlarged. But, in truth, this is a theoretic subtlety, as a good authority has well observed, which will never be much insisted upon in practice.

The advantages of increased saliency which Vauban had recognized for his demilunes are, in the modern method, fully admitted, and extended to their utmost limits, by making the salient angle of that work the vertex of an equilateral triangle, the side of which is equal to the effective range of musketry from the face of the bastion. It is curious that Cormontaigne, so recently as 1736, had to encounter much prejudice on this point, and was even forced, while rectifying the fortifications of Metz, to yield, in part, his own more enlightened notions upon a question concerning which there is now but one opinion among engineers. The direction of the faces of this work upon points thirty yards distant from the shoulders of the bastion is also retained.

The flanks of the demilune were condemned and done away with, because it was affirmed that they not only laid open the shoulder of the bastion and the curtain to the besieger's fire from the crest of the opposite re-entering places of arms and part of the adjoining covertway, but that they are themselves easily silenced by the first batteries *à ricochet*, or reverse. It is so singular that Vauban should have overlooked such an obvious consequence of this construction, particularly when we recall to mind the pains which he had taken to change the tracing, both of the bastion and of the demilune, so as to cover the precise points which he is here accused of exposing, that we are naturally led to ask whether he had not some ulterior or concealed motive for such a remarkable deviation from his own principles. It is well known that the use he intended to be made of these flanks, was to open a close fire of two or three guns at one hundred and twenty or one hundred and thirty yards upon the besieger's lodgment, passage of the main ditch, and ascent of the breach in the bastion, or force him to the alternative of taking or silencing that battery previous to any attempt at those operations. Did he conceive that the reduits of earth or masonry with which he had strengthened the re-entering places of arms, would conceal the shoulders of the bastion sufficiently, and that in a good defence these reduits ought not to fall until the demilune had been taken? Or did he imagine that the besieger would not venture to cross the main ditch to a breach made by such means in the shoulder or curtain, until he had captured the demilune? The objection made to these flanks, on the grounds of their exposure to be silenced by enfilade and reverse fire, they only share with many other works; and it is evident that the faces of the modern demilune, being pointed more towards the country than the older ones, are liable to ricochet in the same proportion as their saliency is in-

creased. Neither should it be overlooked that a redit of good command, placed in a demilune with flanks, would act as a traverse to intercept much of the reverse fire which might otherwise reach them.

The thickness of the demilune, measured from its scarp revetment to the counterscarp of the ditch of its redoubt, was reduced to the smallest dimension possible, compatible with the proper thickness of its parapet, and the breadth of terreplein absolutely indispensable for containing and working the guns.

The demilune, thus modified, possesses these substantial advantages: that it perfectly covers the shoulders of the bastions and the trouées of the tenaille; that, in the octagon upwards, its great saliency gives it a flanking and reverse view of the ground lying between two demilunes in front of each bastion, rendering it prudent for the besieger to make himself first master of these two demilunes, rather than push his approaches between them towards the intermediate bastion, his flanks and rear exposed to their fire; that in attacking a place fortified with such demilunes, the duration of the siege is consequently really lengthened by the time required for taking two of them; that in addition to these positive benefits the attacking party is under the necessity of acting against two demilunes and the bastion between them, instead of, as in the preceding systems, against two bastions and a demilune; a very important difference for the defence; for in the one case the garrison have but a single breach in the body of the place to defend, on which, therefore, they may concentrate all their means; while in the other their attention is distracted by two breaches, requiring double working parties to retrench them, and dividing their chosen troops for their defence. It will, nevertheless, detract somewhat from this flattering picture, when we discover that, although the attack is limited to a single bastion, yet that the faces of the two adjacent ones may be breached from the battery at the salient of the demilune, and that their shoulders are similarly exposed from the batteries at the salient of the centre bastion, because, as Choumara has pointed out, they are visible from thence beyond the extremity of the tenaille.

With respect to the narrow terrepleins of these works, the following are the grounds upon which is founded their alleged superiority. As they contain only the space necessary in strictness for their own parapet and guns, it is difficult for the besieger to turn them to advantage after he has gained the demilune, for when he proceeds to erect his batteries against the redit, he finds that there is not room at the same time for his cannon and for the parapet which is necessary to cover them on the side towards the place. He therefore must make choice of one of these three difficulties; either to cut away the parapet of the demilune in rear of his guns, to obtain room for them, which exposes him to a reverse fire from the collateral works; or to breach the redit from the crest of the glacis of the demilune, through an opening cut through the latter work by his own cannon; or, lastly, to open the redit by the tedious operation of the mine.

This narrowing of the demilune led to another valuable result. It permitted the redit of the demilune to be much enlarged, which not only made that work itself of considerably greater importance, but in allowing its flanks to be lengthened, rendered them capable of containing as many guns, and maintaining as effectual a fire upon the main breach as the condemned flanks of the demilune of Vauban's system.

After all, probably, Cormontaingne's greatest service to the fortification will be found to consist in his clear demonstration of the superiority obtained by constructing upon polygons of a great many sides, or upon a straight line. Granting that constructions on a straight line are only applicable to situations, such as an isthmus for example, where, let the works be what they may, the besieger is deprived of a great portion of the power which gives the main superiority to the attack, that of extending his parallels in such a manner as to enclose the fronts of attack and overwhelm them with enfilade, reverse, and vertical fire; granting this, there still remain many and incontestable advantages. In the first place, without altering the length of the flank or curtain, the salient angle of the bastion is so much opened, that its faces form almost one continuous straight line. Hence, externally, the prolongations of the faces of the bastions are intercepted by the faces of the demilunes, and being consequently concealed by the latter, deprive the besieger of the exact data which he requires for the correct establishment of his enfilading batteries. Or, supposing his engineers to overcome this difficulty by means of their directing plan and surveying instruments, which it certainly is in their power to do, there remains this great one to be surmounted, that those batteries must unavoidably be so close to the place, and consequently so exposed to a heavy flanking and reverse fire from the works, that their construction and occupation, if practicable at all, must at least be an operation of the most extreme labor and danger. Externally, again, the undefended sectors in front of the bastions are diminished to the least possible extent, and the consequence is, that, allowing for the splay of the embrasures, the powerful batteries of both faces of that work can fire directly upon the approaches along its capital, and obliquely upon those towards the demilune. As each of the besieger's batteries must be exposed to a similar fire, their construction will consequently be much retarded and endangered.

Internally, the space within the bastions is greatly increased and made more available for the defence of the breach by powerful retrenchments; guns can be placed in battery close up to the salient angle; large bodies of troops, comparatively, can be formed to resist the assault; and the power of free communication through the gorge has received its fullest extension. Further, if it be a full bastion, considerable facility is acquired for the construction of shell-proof chambers, to serve as magazines, mills, and stores of every description.

In attacking such a series of works as we are describing, the besieger must silence the fire of three, and it may be of even five, demilunes, before it will

be prudent for him to advance upon and crown a single bastion; because the requisite approaches are completely seen by the works in question. Hence great labor in the construction of additional batteries, proportional loss, and a necessity for more powerful engineer and artillery means than would be organized for the siege of a place fortified on one of the inferior polygons.

We may place in the opposite scale to the above advantages, that the demilunes of such a construction are more exposed to ricochet and reverse fire than those of any other, and it remains to be proved whether a rapid and well-directed fire of shot and shell from the heavy iron guns and howitzers at the disposal of the British artillery would not so disable and tear to pieces the defences as to permit the approaches to be pushed to their salients and even between them, with little to apprehend, except from the fire of the bastions and the redits of the re-entering places of arms.

Under the auspices of Cormontaingne and the school of Mezières, the redits of the re-entering places of arms acquired an importance which they had not previously possessed. They were, in particular, much enlarged; yet so as not to trench upon the functions to be exercised by the re-entering places of arms themselves, namely, the assemblage of bodies of troops for sorties, and the forming a point of support to the defenders of the covered way. By an artful direction of the faces of the redits, those lines are effectually defiladed against all parts of an enemy's lodgment on the crest of the glacis, and strongly profiled flanks, capable of mounting one gun or howitzer, tend much to strengthen the defences of the covert-way, and to impede the lodgments at the salients of the demilunes. It is but just to remind the reader that Coëhorn is admitted to have been the first who formed redits in the re-entering places of arms, and that they made a good defence at Bergen-op-Zoom in the siege of 1747, the garrison having maintained themselves in one of them until the very end of the siege.

In the modern method the use of redits has been extended to the salient places of arms, in which position they are likely to offer a formidable opposition to the construction of the trench cavaliers and crowning of the covert-way.

In this modification of Vauban's system demi-caponnières are employed, not only in the ditches of the body of the place, but also in those of the demilune and its redit. They facilitate the onslaught of the garrison against the operations of the attack in the ditches; they shelter troops marching along the main ditch from shot passing down the ditches of the demilune or of its redit; they afford a fire of musketry in their front, and in some degree cover the revetments of the face of the bastion from the fire of the counter-batteries at the salient of the demilune, in the latter case conveying a hint which we shall presently see taken advantage of by Bousmard, Choumara, Haxo, and others.

In the dry ditches of Bellecroix, Cormontaingne made the ditch of the redit of the demilune twelve feet shallower than that of the body of the place,

supporting the earth at its inner extremity by a wall, under which the communications of the garrison along the main ditch were kept open until the demi-lune had fallen: in addition to which, the defenders of the breach in the demilune can, if driven from it, retreat coolly, without any apprehension of being cut off by parties of the assailants passing along the face of the demilune, and turning it at the moment of assault. It is, therefore, now the established practice to make the ditch both of the demilune and of the redit shallower than those of the enceinte, to which the engineer is led by two considerations: one, that those works, having less height and breadth than the body of the place, do not require so much earth; the other, that by raising the bottoms of their ditches in this manner, they are lifted up, as it were, more into the line of fire from the faces of the bastions.

It was sufficiently well known before Cormontaigne, that by means of judicious inundations in favorable positions, one or more fronts might be refused, if we may so apply the term, to the attack of the besiegers; who being thus obliged to advance against certain other fronts known to the garrison beforehand, could be better met and provided against. But it is to him that we are indebted for the extremely important idea of occupying such inundations by works, inaccessible themselves on account of the water, yet seeing and defending, in flank and rear, the ground before those parts of the place not protected by the inundation, and to which the attack, as we have just stated, is confined. In situations not favorable to the employment of inundations, as auxiliary to the defence, he nevertheless recommends the use of these reverse works; placing them either on ground which is difficult or unapproachable by nature, or making it artificially so by the ample distribution of casemates and countermines.

The cavalier has, we believe, in this method reached its principal modern improvement. It has good ditches with reveted scarp and counterscarp, defended by a loop-holed gallery at the rounding of the latter, and by a traverse, or a demi-caponnière at the shoulder. These cavaliers are convertible into strong retrenchments by a ditch and parapet (technically, a "coupure") connecting their counterscarp with the face of the bastion near the shoulder; having, however, this fault, that it curtails the battery of the face by one or two guns.

Advanced lunettes are extensively employed, and are much increased in strength and importance. Their ditches are defended by casemated cannon from the place, where practicable, and by loop-holed galleries for musketry in their counterscarp. Such were constructed, and are still considered as models, by General d'Argon. Their gorges were rendered secure against any attempt to turn them or carry them by a *coup-de-main* by a small front of fortification raised across their rear, having sometimes a strong tower in the middle of the curtain, communicating by steps to extensive vaults and casemates beneath, and thence leading by a subterranean passage to the body of the place or demilune. It may be observed, by the way, that the communications, generally, are much improved, and that the free cir-

culation of artillery, men, and ammunition, is much better provided for than heretofore.

The advanced lunettes were occasionally strengthened by an advanced glacis and covered-way, joining those of the place; with the addition, in suitable localities, of an advanced ditch. Flèches were also erected, permanently, or during the siege, for the close musketry defence of these advanced works and of the above ground communications leading thereto.

Such is a sketch of the innovations brought about by Cormontaigne and his school. It is impossible to review them without being sensible of the inadequacy of all our present means of defence to cope with the vast advantages possessed by the modern attack. The progress of the science has had to struggle against many powerful causes of retardation. It was in the first instance rather an adaptation to new circumstances, of the ancient fortification, than an original conception applicable to the power of gunpowder. It afterwards remained in the hands of those nations which were most directly interested in opposing all radical changes, because they had built fortresses at a vast expense, which would sink into insignificance before a better and more appropriate method. Hence the art may be said to be still in its infancy, and the great problem to remain yet unsolved, namely; "To restore the broken down balance between the attack and defence."

Cormontaigne proposed a treble line of fortresses for the defence of states, increasing in strength towards the interior, and those of each successive line occupying the intervals between those of the one in front. He was Mareschal de Camp and Director of Fortifications. He is chiefly admired for his beautiful double crown works of Bellecroix, and the Moselle at Metz, for his crown work at Yetz at Thionville, and for the additional works which he applied to the Castle of Bitche, by which he has rendered it a very strong place. He left several memoirs, which are still looked upon as first-rate authorities in the profession, and died in 1750.

[*To be continued.*]

UNIFORM OF THE BRITISH NAVY.—We learn that an intended change is shortly to take place in the uniform of all grades of officers in the navy. We trust that whatever alterations the Admiralty may be induced to recommend, economy and utility will be the governing principle—at least more so than has been shown in the various changes which have been made in naval uniforms these last thirty years. First, we wish to see abolished that uncomfortable (and we cannot help saying unsailor-like-looking) Prussian collar, which ought to be worn close up to the chin, both in full and undress, and which gives to a naval officer an appearance of stiffness and precision so foreign to the habits and manners of his profession. We have conversed with several officers on the intended change, and they all seem to hope that the red cuff and collar will in future be dispensed with; and although it has oozed out that white is likely to be again substituted instead of red, we are sure the service, as a body, would rather be without facings altogether; blue and gold lace on the cuff and collar, without epaulets on the undress coat of all ranks,

the gold lace so arranged as to designate the various grades, might be made much less expensive than the coat and epaulet worn at present. The full dress, being only worn on occasions of state and ceremony, may be made more expensive than the undress; if, without epaulets, it should not exceed the price of a coat and pair of epaulets worn at present. But we think the civil part of the service may have a handsome and respectable uniform without those appendages.—*Hampshire Telegraph.*

A SURVIVOR OF THE 44TH REGIMENT BRITISH INFANTRY.—A letter appears in the London Times, dated Camp Deesa, March 2, giving the particulars of the safety of one member of the ill-fated 44th regiment. The following are the chief features of the letter:

"This morning a strange man came into camp, covered with hair, and almost naked, his face burnt very much; he turned out to be Lance-Sergeant Philip Edwards, of the Queen's 44th regiment, who escaped at the general slaughter at Gundamuck, Afghanistan, and after travelling fifteen months in a southerly direction by the sun, he found his way into camp here, not knowing where he was. He says the 44th men were all drunk, and could make no resistance, and that the Sepoys threw away their arms and were cut down. He was wounded by a bullet in the leg, and when the men were nearly cut up, he mounted a camel with another man and made off. They kept together eight months, and then separated, as they could not agree about the direction of travelling. They lived on any grain they could find, and killed goats now and then, but sometimes were obliged to live on grass and herbs. The Afghans treated them well, but on entering Scinde the natives used to hunt them out of their villages and set dogs on them. This man is a Scotchman, and was in the 31st buffys, but exchanged with a married man. He is a fine soldier-looking fellow; some of our men knew him when in the buffys. We have given him 120 rupees, and the men have given him nearly 300. He has left here for Bombay, and is going to England to join the 44th. Avoiding the large, he skirted the small villages, sometimes treated with much kindness, and occasionally with great indignity, the villagers sometimes seizing him by the hair, hooting him as a Feringee, and spitting in his face; he is much burnt and travel-worn, as might be expected. He has about two years' pay due to him, and may, perhaps, by the kindness of the Government and others, be enabled to set himself up comfortably in some little way in England, which may repay him for his last two years of misery."

FRENCH FLEET.—The disarming is carried further than was even expected from the Ministry, after the vote on the amendment of M. Lacrosse. It was at first decided that six ships of the line should remain on a war footing, and that eight should be held *en disponibilité de rade*. But England having reduced to six her vessels in the Mediterranean, the French Government has been polite enough to diminish its force below that amount, without considering that the large English packets, which can be almost compared to ships of the line, are continually reinforcing

Admiral Owen's squadron, and that there are four ships of the line at Gibraltar and Lisbon. First of all, the seamen of the inscription were dismissed, next, some large vessels; others were afterwards disarmed, or sent to be repaired, which is the same thing; and, finally, two have been just sent to Brest, to be disarmed there—the *Friedland*, of 120 guns, and the *Marengo*, of 72, both of which quitted Toulon on April 22. The number of packets was scarcely sufficient for the necessities of the service in the Mediterranean, and yet the number is about to be still more reduced. Five steamers have received orders to leave Toulon for the ports of the Atlantic, so that there will only remain twenty for the service between Toulon and Algiers, for the station on the coasts of Africa, and those of Tunis and the Levant, as well as for the various missions that may be required. As there are always four or five packets under repair, many branches of service must necessarily suffer by it. The desire to please England drives the Ministry in a direction which, sooner or later, will become inauspicious to France." *Courier Française*:

NEW LOOM.—We have been informed of a loom recently invented by Mr. Sadler, at Holbeck, for weaving each sail of a ship, even of the largest class, in one entire piece; and a machine also for spinning, doubling, and laying the yarn either for two or three thread for the warp and weft, thereby giving greater strength to the cloth, and with half the weight. We have seen letters of approval from the Lords of the Admiralty, and with orders for sails for trial.—*Leeds Mercury*.

THE NELSON MONUMENT.—The whole of the leaves, roses, and parts of the Corinthian capital to be placed on Nelson's monument, Trafalgar square, have now been cast at the foundry in the Royal Arsenal, Woolwich, with the exception of four volutes. The latter ornaments are most elaborate in their detail; and some idea of the difficulty of making a casting in one piece may be formed, when it is stated that the mould, before it is put together, has to be arranged from about three hundred distinct parts; and great doubts are entertained of the artist, Mr. Clark, being able to cast the requisite quantity of metal in the peculiar form of this beautiful and graceful ornament. He is resolved, however, to make the attempt, and confidently anticipates being able to complete the undertaking with from ten to thirteen cwt. of brass. Had the usual mode been adopted, the casting could not have been affected with less than about forty cwt of metal.

BELL ROCK LIGHTHOUSE.—The monthly return from this establishment for February takes notice of a heavy sea upon the rock, from the northeast, on the 14th and three following days, when the spray rose from seventy to eighty feet on the lighthouse tower. On each of these days, says the return, "we felt the building tremble but very little." Various of the travellers or boulder stones upon the rock have been shifted from "Arniston and Ulster," ledges to the west end of "Hope's" wharf. The boulders connected with the "royal burghs" have also been tossed about; one of these measures nine feet in length.—*Caledonian Mercury*.

**Domestic Miscellany.***From the New York American.***WASHINGTON'S BIRTH DAY IN CHINA.**

The annexed report of doings on board the U. S. ship *Constellation*, on 22d February, will be read with interest:

**CELEBRATION OF WASHINGTON'S BIRTH DAY, 1843, on board of the U. S. frigate *Constellation*, lying at anchor in Blenheim Reach, Canton river.**

The eve preceding the 22d of February, 1843, thirteen rockets, at regular intervals, were seen to shoot far up through a starless and dark night from the ship above-mentioned, as if it were in some degree intended to supply from that *Constellation* what the heavens withheld, perhaps purposely, that every "starry light and twinkling flame," should be in reserve to illumine the morn which gave birth to a Washington.

\* At the last, or thirteenth rocket, a blue light was seen, displaying in an indescribable hue and most vivid brightness, every object on board from deck to truck, visible as at noon-day.

The *twenty-second* broke with a mild, clear sky, and a sereness altogether, that seemed to say it was purposely designed for the celebration of a day so marked as this; and the glorious sun rising, blending the mists of the morning with his brightest golden rays, mellowing all, had not emerged fairly clear of the "flowery land," 'ere the ship, by magic, as it were, put on her "birth day" suit; at the same time, the booming of her cannon reverberating far through the vales of the "Celestial" hills, to tell the heathen *there*, that the infant, *Liberty*, was born on the 22d of February, 1732, who was christened on the 4th of July, 1776.

At 11 A. M., the officers, in their proper uniforms, and crew and marines, neatly dressed, assembled on the quarter-deck, the national flags of every country waving over them, united with our own, in a harmonious horizontal circle. And thus it was, or seemed to be, that in the presence of assembled nations, we stood to hear read the Constitution of the United States, and the Farewell Address of President Washington. So far as the feelings of seamen can be acted upon, the spirit of that great and good man seemed to be hovering about them, and pervading every listener with the sacred doctrines of virtue and patriotism.

At meridian, a salute was fired, and a *feu-de-joie* by the marine-guard, assisted by the crew and armament of the launch, then at anchor near the ship and dressed with colors.

At 1 P. M., the "pipe to dinner" called the crew to the gun-deck, where were served up one hundred and thirty *capons*, or about 332 pounds, made into a "pot pie," of the execution of this part of the celebration, it is unnecessary to speak—Falstaff never fared better.

At sundown, a third salute was fired, and the colors gracefully descended with the last tap of the drum, and the band struck up "Hail Columbia," "Auld Lang Syne," &c.

In the evening, the decks were lighted up, and a

triumphal arch beautifully adorned with nature's contributions from the "flowery land;" this was rigged athwart ships on the quarter-deck, abaft the gangways. In the distance forward, were exhibited well executed transparencies of Washington, and of the goddess Liberty, seated on a grog-tub capsized, sucking a young eagle, &c., &c. The following mottoes: (under Washington) "First in peace, first in war, and first in the hearts of his countrymen." By the side of Liberty stood an American tar, supporting the flag with one hand, while in the other was a scroll on which the only visible names inscribed were, George Washington, John Langdon, Rufus King, Roger Sherman, Alexander Hamilton, William Livingston, Benjamin Franklin, Geo. Reed, James McHenry, James Madison, jr., Wm. Blount, John Rutledge, William Few."

(Motto: "By this we conquer.")

A seaman stepped out from among the crew, and touching his hat to the officers who, with the Commodore, were on the deck enjoying the scene in silent admiration, "begged to say a few words to his shipmates on this occasion;" and, obtaining leave, he delivered the following address:

"If any thing tends to keep alive the patriotic feelings of men, such as filled the minds of Washington and his associates, in the great struggle which made ours a mighty and free nation, it is a commemoration of eras like the present.

"Every man, who now enjoys the blessings of freedom, and feels proud that he is a descendant from those who in the days 'that tried men souls,' by their united wisdom, bravery, and patriotism, laid the foundation of our glorious Republic; bequeathing it to us, their posterity, to perfect and perpetuate, has a right, and evinces a noble spirit when he stands forth; and either at home or abroad proclaims his pride in being one of the thousands that celebrate the day.

"Let him then who feels no interest in such recollections, and has no *soul* to appreciate his privileges, *stand aside*. But there are no fears that any of that class will be found in a community enjoying the honor of belonging to a country which owns the star spangled banner as her emblem, and sends it forth among the nations of the earth, to protect or avenge. Free herself from the yoke of oppression, she has always been an asylum for all who have sought her shores, leaving it indiscriminately in their power to enjoy both her honors and protection. United, then, should be the hearts of all—and in a spirit of patriotism and hilarity join in the celebration of any event that commemorates the birth of such a hero as Washington.

Let it bring to our recollections that we belong to a country of which he was the father; that we belong to the right arm of that country's service. Let us call to mind on the occasion, that this *very ship* in which we now float, is one that caused the flag of a powerful nation to come down, although waving at the peak of more than her own force. Let us remember, too, that we tread the planks of the first born of the *American navy*, and that she has carried the stars and stripes through war and peace bright and unsullied.

"Tars of the Constellation! let your enthusiasm be displayed in a manner to do credit to the most ennobling properties of a true seaman's character. For, if any portion of those who are entitled to claim the glorious privileges which ours, as a free and enlightened country, affords, it is surely such as are ready at a moment's call to defend, or, it may be, punish, any power that may have the temerity either to insult or attempt the usurpation of any of our rights.

"Foremost in the ranks of success, when required, has always stood the *American navy*. Manned with hearts nerved strong in the righteousness of their cause, they will never shrink from danger or permit one 'blot' to tarnish the 'escutcheon' of their 'national honor.' To prove that such has been their bearing in the eyes of the world, I need not recapitulate their triumphs; they are engraven on the hearts of *all* who love their country.

"Under the guidance, then, of those who are instructed to direct the concerns of our honor and good, let us, whenever our country may need our services render them in the spirit of 1776."—(Loud cheers from all hands.)

When the cheering, which followed the conclusion of the address had ceased, a stentorian voice was heard from the forecastle, hailing the ship; soon after, one of the water-gods appeared, bearing a card, or immense shell rather, from old Neptune to Commodore Truxtun; and the god of the sea, with the identical "long lee gang-way trumpet," was soon seen making his way aft, seated in a shell pattern barouch, drawn by four able seamen, metamorphosed into four immense dolphins, whose floundering over the dry deck exemplified the uneasy position of "fish out of water."

The captain of the forecastle, with the ribbons in hand, was seated on the box, and two apprentice boys in the dicky, or foretopsail halyard rack, behind, representing mermaid footmen.

Commo. Kearny received the cortège with much civility, informing the old gentleman that his friend named on his card had "gone aloft," leaving a name to the Constellation, a never fading star.

The sea king shook the brine from his ample beard, and called for a drink.

On this day the officers dined together, and a number of their fellow-citizens, also, on board at their invitation.

The day passed off not only agreeably, but it is hoped usefully, in the great work of binding together the true interests of all—inspiring union and a spirit of patriotism in the sailors of the navy.

**REVOLVING STEAMER, OR MARINE RAILWAY.**—A young man, named Augustus Abbott, a carpenter by trade, has invented a machine, now exhibited in the bar-room of the St. Charles Exchange, which has attracted the attention of a large number of citizens and strangers. He calls it a revolving steamer, or marine railway, and if the opinions of several scientific gentlemen, who have carefully examined the model, is to be relied upon, it is destined to produce wonderful changes in river and lake navigation. The

principle is entirely new, two rows of air-tight boxes, seventy-eight in number, constituting the *boat*, above which is the cabin. These boxes are to be made of thin iron, connected by links or butts, and are to revolve by means of two fly-wheels, the engine being placed in the centre. In the opinion of the inventor, the vessel will run at the rate of forty miles per hour, against a strong current, carrying nothing but passengers and mail. The cost of construction, will, it is thought, not exceed five thousand dollars, and the expense of running will be but trifling. We have given but a bird's-eye view of the model and principle, in the hope that all who take an interest in the onward march of art and science will pay it a visit, and judge for themselves. The object of the inventor is to obtain, if possible, the means to make an experiment, and test the accuracy of his views. The ingenuity of the plan, at all events, deserves favorable consideration, and we trust he may meet with due encouragement.—*New Orleans Tropic*.

**THE IRON WAR STEAMER** for the upper lakes is rapidly approaching completion, that is, all that can be done in Pittsburg, and in two or three weeks she will be taken apart preparatory to being transported to Erie. As she stands on the stocks she appears to be a beautiful craft. Every thing is of iron, and that of the best quality and workmanship. We see it stated in some of the papers that her engines were to be made at Buffalo. This is a mistake. Two low-pressure engines, of the most superior workmanship, are already in a great state of forwardness. The work on these engines, as well as the work generally on this Government steamer, will do lasting credit to the mechanics of Pittsburg, and almost put competition at defiance.

Two other iron steamers, intended for revenue cutters, one for the Gulf of Mexico and the other for Lake Ontario, are also under way in this city.—*Pittsburg Gazette*.

**ELECTRO-MAGNETIC TELEGRAPH.**—We are gratified to state that the board of directors of the Baltimore and Ohio Railroad Company has given permission to Professor MORSE to use the track of the Washington road for the purpose of carrying out the intentions of the act of Congress in reference to his important invention of the electro-magnetic telegraph. One station of the telegraph will be at some appropriate place in the city of Washington, and the other in the city of Baltimore, and the communication between them will be effected by properly prepared wires laid along the line of the railroad. The object of this arrangement is to prove what Professor MORSE has already most satisfactorily shown on a less extended scale, that the length of the line of communication presents no obstacle whatever to the instant transmission of intelligence between the two extremes, either by day or night. We predict for this ardent votary of science the triumphant success that he so well merits.—*Baltimore American*.

**BEHN'S CAVALRY DRILL, WITH A PORTRAIT OF THE AUTHOR.**—We are indebted to the courtesy of the author for a copy of this new work, which purports to

be a system of cavalry tactics, compiled by Capt. G. W. BEHN, of the *Georgia Hussars*, for the use of volunteer cavalry. This system of instruction is comprised in a handsomely printed volume of 316 pages. It is well illustrated by diagrams, exhibiting the various formations of cavalry corps. We are not acquainted with the drill of this branch of service, but should suppose from a hasty inspection that the volume before us contains much useful information. Some of the words of command appear to be brief and concise, which is a great merit in any system of tactics, for very few officers not well accustomed to drill can give off long commands, and most generally commit errors, be they ever so short.

The volume comprehends, besides the ordinary drill and evolutions of squadrons, the various trumpet calls reduced to a musical scale, a chapter on camp and field duty, containing directions for posting guards, order of march, encampments, patrols, &c.

A copious appendix is added to the work, embracing numerous portions of such regulations for the army of the United States as may prove beneficial to volunteer troops; also, rules for procedure of courts martial, rules of evidence, and other matters appertaining to military law. Besides this, we have the manual of the carbine fully explained by plates.

There is another appendage to the work, which, if not objectionable, does not constitute a recommendation to it. We allude to a dozen pages of sacred hymns crowded into the end of the volume, where they appear in sad association. A hymn book is for one object, a book on tactics for another; and the hymns in this volume are as much out of place as a fastidious spinster would be in a dragoon barrack-room.

The book is, upon the whole, very well got up, and, as may be inferred from the hasty notice which we have given of the contents, will be a useful compilation to military men generally.—*Savannah Republican*.

**COMMODORE MOORE.**—Commodore EDWIN W. MOORE, of the Texan navy, whose name has already been placed conspicuously before the public, and who, we presume, in consequence of the recent proclamation of the President of Texas, is likely to be still more prominent, is a native of this place. He is the son of Thomas Moore, Esq., deceased, and a nephew of the late Alexander Moore, Esq. He is now a little upwards of thirty years of age. When a youth, he was remarkable at school for his quickness, sagacity, and energy. After he obtained a midshipman's warrant in the United States navy, he distinguished himself by his application to his duties, his knowledge of seamanship, his general intelligence, and all other requisites of a naval officer. The character he maintained soon brought him into notice, and he received the commendation of all the commanders with whom he sailed, and passed his examinations always, we believe, at the head of his list. When the Government of Texas determined to organize a navy, they resolved to place at its head some active, enterprising, and spirited young officer, and forthwith began to look around for a man capable to conduct their new enterprise. Their choice fell, without hesitation, upon

Mr. Moore, and he was offered the command of the Texan navy. Impelled by a natural and praiseworthy ambition, and filled with generous ardor in the cause of the young Republic, he accepted the distinction thus conferred upon him; and from that time to this, has devoted all his talents and energies, through every misfortune and difficulty, to the attainment of the object of his wishes, the honor and triumph of his adopted country, and the success of that branch of the public service at the head of which he is placed.—*Alexandria Gazette*.

**EXPEDITION TO THE ROCKY MOUNTAINS.**—The *Savannah Republican* publishes the following letter from one of the party engaged in the expedition to the Rocky Mountains under Sir CHARLES STUART:

FORT LOUIS, April 30.

The lateness of the season has caused us to delay our departure a fortnight after the time which had been originally designated. Nor shall we be able to leave the borders of civilization, which are about three hundred miles from here, immediately after reaching them. Partly in order to let the grass grow a little higher, partly to accustom ourselves to the life of the wilderness, we shall spend a week or two in camp in the neighborhood of Westport.

Our party is composed of about twenty gentlemen and some thirty servants, or rather muleteers. There are three Englishmen, four Germans, two Frenchmen. Three of the Americans are from Baltimore: all the others from the banks of the Mississippi. The greatest number seem to have no other object than to spend a pleasant summer, and improve their constitutions by the exposure to hot and cold, rainy and dry weather. There are, however, several young men whom the love of science decided to join the flag of the descendant of the Stuarts. There are four botanists, two ornithologists, and two doctors, and one gentleman of the party a poet. He is said to be one of the editors of the New Orleans *Picayune*, in which he writes lines under the name of "Phazma."

At this place, an old and experienced mountaineer has been appointed commander-in-chief of our expedition and leader of our caravan. We shall look rather fierce, with our guns and rifles, pistols and butcher knives, our blanket coats and other *dress* ball articles. A German painter is going with us, to immortalize our beards and costumes. One of the doctors has provided himself with the latest fracture machine, and all other instruments of torture belonging to his profession, which he is exceedingly anxious to try on some of his new friends. Each of us have taken about ten dollars' worth of Indian currency, viz: blue and white beads, knives, vermillion, hawk-bells, and brass rings. With this we expect to keep our wardrobes in good order, and procure for ourselves all the luxuries of Indian life.

We are to travel part of the way in company with a corps of United States soldiers, under Captain FREON, who has been making a survey of the far west for some years past. I am told, also, that some Roman Catholic priests will avail themselves of the opportunity for joining the mission of their church in the Rocky Mountains.

WEST POINT.—A letter published in the New York Aurora contains the following account of the examinations now going on at this valuable national institution:

WEST POINT, June 6, 1843.

MESSRS. EDITORS: The Board of Inspection, recently appointed from the officers of the army, for the examination into the state, condition, and course of studies of the Military Academy at this place, assembled yesterday. You are aware that this Board was selected by the Secretary of War, in lieu of the *Board of Visitors*, heretofore usually appointed, principally from civil life, Congress having, at its last session, abolished this Board, either on the score of expense, or for some other cause. The *Board of Inspection*, now substituted, subjects the Government to no extra expense, except that of transportation of the officers, which will be a small item, whilst the known and superior qualifications of the gentlemen selected insure all the advantages of the fullest and most scrutinizing examination into every department of the institution, and into the attainments of the cadets themselves.

This morning, at 8 o'clock, the Board assembled in the room which the academic staff had appropriated for the examination of the students. The room selected is the one in which the mineralogical cabinet is arranged, at the southern end of the academic building—a room some thirty by fifty or sixty feet.

The examination commenced with the first section of the first class, and embraced the course of engineering. The examination was conducted by Mr. Mahan, the Professor of Engineering. Three large black boards were arranged on stands—a model of a low pressure and of a high pressure steam-engine were placed in the rooms, and a model of a fortification placed on other tables. The section, composed of ten students, produced their drawings and deposited them on the superintendent's table. Three were then directed to mark out on the black board the problem machine, mechanical power, fortification, or building, intended to be demonstrated.

While they were thus engaged, the three next were called up and examined, without the aid of books, maps, or any thing of the kind. When this had been prosecuted until the three first were ready, they were respectively examined in their work, and as one had finished his demonstrations from the black board another was introduced to take his place at it, and mark another problem, &c., for demonstration or explanation. This course was pursued until the whole section was gone through, embracing all the branches of civil and military engineering.

When the first section had been disposed of, the second section, composed of a like number of students, was called up, and they were examined in like manner by their instructors, and Prof. Mahan, and so on with the third section, and the fourth—the day being devoted to the whole class, in the "course of engineering," and the fourth section not being quite finished when evening arrived.

Gen. Scott arrived here in the night of Saturday, and on Monday morning a salute was fired in honor

of his arrival—the General having stolen a march upon them by coming in the night. A portion of the rest of the Board arrived on Sunday night, and the balance, with the Secretary of War, arrived in the boat *Empire*, at half past ten o'clock.

The Secretary was received at the wharf by the superintendent, and escorted to the hotel by an escort of dragoons and infantry, and a salute fired—the escort being formed of cadets, and the salute fired by cadets also.

At about two o'clock, there was a grand review by the Secretary, accompanied by Gen. Scott, the Board of Inspection, and the academic staff, in the presence of a number of visitors. Mr. Delafield gave a handsome entertainment at the conclusion of the parade, to which the company did great justice.

To-day, at five o'clock, there was a handsome parade and drill by the cadets, as infantry, which lasted till nearly dark. In the course of the drill, the Secretary requested of Major Delafield that one of the first class of cadets should take the command of the battalion, and drill them instead of the commandant, Lieut. Thomas. Cadet Augur, the Adjutant, then proceeded to drill them for a time, which he did with great neatness. The Major then requested one of the privates of the first class to take command, when Cadet Franklin (son of the late Walter S. Franklin, Clerk of the House of Representatives of the United States,) assumed the command and acquitted himself with great credit.

Mr. Wier, the professor of drawing, has nearly completed a splendid painting of the Pilgrims on board the Speedwell about sailing from Holland, intended for the rotunda at Washington. I am no connoisseur in painting, but I am greatly mistaken if there is any thing about Washington, either for design or execution, that is equal to it.

Gen. Scott is attended by his two aids, Lieutenants Scott and Kearney. There is a good deal of other company here, among them several ladies, and a Captain Jones of the British army. I am sorry to say that the gallant Commanding General is somewhat indisposed this evening from the effects of a severe cold; so much as so to have been unable to attend the Board or review the troops this afternoon.

The keels of two brigs for the Mexican navy were laid last week in New York. They are to be of the same size as the *Libertad* and the *Eagle*.

A NEW INSTRUMENT OF DESTRUCTION.—A revolving steam-battery has just been tried in New York, and pronounced successful, on a small scale, though doubts were expressed of the success of the principle upon an extended scale. It was a fort, containing one hundred guns, in four rows or tiers of twenty-five each. The whole frame, weighing one ton, was moved round in a circle by two steam-engines of one horse power, and as fast as each gun came round to bear upon a certain point it was discharged. It would be a tremendous instrument if it could be made of practical service in war, which is not likely from the description given of it.

*From the Cincinnati Republican.*

**ANTHONY WAYNE.**—The actions of this distinguished citizen and successful warrior are so intimately blended with the early history of the west, especially of this State, that we present a few desultory remarks on his ancestors and early and civil life, studiously avoiding any allusion to his splendid military achievements, as they are incorporated in the histories of the Revolutionary war and the Indian wars of the west.

The ancestors of our hero resided originally in Yorkshire, England. His grandfather early in life emigrated to the county of Wicklow, Ireland, and commanded under King William a squadron of dragoons at the memorable battle of Boyne. An ardent attachment to republican principles prompted him in 1722 to migrate to North America, with his family, consisting of four sons, all of whom were well educated in Ireland, their native country. He purchased in 1724 an extensive real estate in the county of Chester, in the State, then the province, of Pennsylvania, a portion of which he assigned to each of his children.

The youngest son, Isaac, father of the American general, was a man of vigorous intellect, enterprise, and industry. He represented repeatedly the county of Chester in the Provincial Legislature, and as a commissioned officer frequently distinguished himself in expeditions against the Indians. After a long life, spent usefully in the service of his country, he died, in 1774, leaving one son and two daughters.

This son, Anthony, whose life reflects such lustre on the historical pages of our country, was born in Chester county, Pennsylvania, January 1, 1745.

Early in life he was committed to the care and tuition of his uncle, Gabriel Wayne, who was regarded as possessing considerable erudition and mental energy.

Anthony also received the notice and advice of Dr. Franklin. He embarked in March, 1765, being in his 21st year, for Nova Scotia, to execute the arduous and respectable duties of the agency of a population company. He married in the year 1767 the daughter of Mr. Bartholomew Penrose, an eminent merchant of Philadelphia, and established himself on a farm in his native county. From this period until 1774 he applied himself to agriculture and practical surveying. Early in 1774 he was appointed one of the provincial deputies who were chosen by the different counties to take into consideration the alarming state of affairs between Great Britain and the colonies. Shortly after he was elected a member of the Assembly which met at the city of Philadelphia, and whose patriotic and spirited proceedings excited in the other States honorable and powerful emulation.

In the summer of 1775 he was appointed a member of the committee of safety, associated with Dr. Franklin, John Dickenson, and other eminent citizens. Under the old constitution of Pennsylvania, which was ratified in 1776, there was a general representative body, selected from the towns and townships called the Council of Censors, of which, in the first year of the peace, he was elected a member. The term of a censor was limited to one year, and immediately after the expiration of that period, he was returned by his native county to a seat in the General Assem-

bly of the State, in which he served during the sessions of 1784 and 1785.

The State of Georgia, in 1782, complimented him with a very valuable landed estate, in consideration of his public services, as well as to hold out the inducement to him to become a citizen of that State when the war should have closed. We have alluded already to his patrimonial property in his native State. Being thus under obligations of gratitude to both these States, he resolved to spend a portion of his time in each. His personal attendance was thereby so much divided between these States, that it afterwards became a question of Congressional decision, whether his domicile was in Georgia or Pennsylvania.

He was elected, however, by his fellow-citizens of Pennsylvania, in 1787, one of the members of the convention which was to decide upon the adoption of the Constitution of the United States. The citizens of Georgia, also regarding him as their fellow-citizen, elected him in 1791, a member of the United States Congress. This election, after an animated discussion, was set aside—upon which President Washington nominated him to the Senate of the United States, as Major-General, and of course Military Commander-in-Chief of the United States Army, which was confirmed by that body; and in April 1792 he received his commission.

The particular object of this appointment was to bring to a close the war with the confederated tribes of Indians, which had so long raged on the then Northwestern frontier. The successful prosecution of this war and its glorious termination are known to almost every school-boy of the West.

HYDROGRAPHICAL OFFICE.  
WEATHER JOURNAL FOR THE WEEK ENDING SATURDAY, JUNE 10, 1843.

DAYS.	Barometer.	THERMOMETERS.				WEATHER.	WIND.	FORCE.	Rain, inches.
		Attach.	Sun.	Rad.	Shade.				
Monday, 5th,	3 A. M. 29.840	74°	67°	66°	70° 5'	65°	61° Hazy.	0 SW.	
Do.	3 P. M. 29.82	102	108	87.5	87.5	66	Cum. strat.	26	.055
Tuesday, 6th,	3 A. M. 29.880	78	62	64	69	63.5	62	Nimbi.	
Do.	3 P. M. 29.988	76	84	87	70	63	63	Clear.	13
Wednesday, 7th,	3 A. M. 30.64	72	49	51	53	49	38	Cumulus.	
Do.	3 P. M. 30.308	74	96	103	77	64	54	Cumulus.	.5 SE.
Thursday, 8th,	3 A. M. 30.356	72.5°	60	58	65	57	54	Cum. strat.	Airs.
Do.	3 P. M. 30.236	77.5	95	98	83.5	74	70	54	Airs. Mod.
Friday, 9th,	3 A. M. 30.138	76	65	64	70	66	64	Clear.	
Do.	3 P. M. 29.988	83.5	101	114	90.5	74	66	Cirrus.	.5 SW.
Saturday, 10th,	3 A. M. 29.50	80	66	67	74	68.5	66	Nimbi.	
Do.	3 P. M. 29.840	87	109	114	91	74	69	Cirrus.	.4 SW.
Maximum variation of the needle, June 6, at noon,		10 36' 32"		Minimum, " " 10 23' 05"		Mean daily variation,		10 34' 06"	

## WASHINGTON.

THURSDAY, JUNE 15, 1843.

THE PRESIDENT OF THE UNITED STATES left Washington on Thursday last, for the North, to be present at the celebration of the battle of Bunker Hill, on the 17th inst. He was accompanied by the Secretary of the Treasury and the Postmaster General, and was escorted to the cars by a number of citizens.

Mr. UPSHUR, Secretary of the Navy, accompanied by Commodore KENNON, General HENDERSON, of the marines, Majors WALKER and NICHOLSON, and Lieut. RUSSELL, of the staff, and Colonel HUMPHREYS, chief naval constructor, passed through Baltimore on Saturday afternoon on their way to accompany the President of the United States to participate in the celebration of the completion of the Bunker Hill Monument.—*Baltimore paper.*

Col. THAYER, of the U. S. Corps of Engineers, is about proceeding to Europe, on leave of absence for the benefit of his health. His numerous friends, in and out of the army, will accord him their best wishes for a pleasant voyage, and a happy return with invigorated health. Col. T. will be accompanied by the son of Gen. PARKER, of the War Department.

Mr. CUSHING, Minister to China, and his suite, visited the U. S. ship *Ohio* and the Boston navy-yard, on Wednesday morning, the 7th inst. A salute was fired in honor of the visitors.

NAVAL STOREKEEPERS.—FLOYD WAGGAMAN, Esq., has been appointed storekeeper for the African squadron, to reside at Port Praya, Cape de Verds; and THOMAS W. WALDRON, Esq., for the East India squadron, to reside, probably, at Hong Kong.

ALIEN ENLISTMENTS.—Another decision on this subject favorable to the United States, was made by the District Court at New Orleans on the 6th instant. A private in the army, stationed at Baton Rouge, an Irishman by birth, who had enlisted for the term of five years, was brought before the court on a writ of *habeas corpus*, when application was made for his discharge from the service of the United States, on the ground that he was an *alien* and a subject of the Queen of England. After a patient hearing of the arguments of council, Judge McCaleb refused to grant the discharge; and the prisoner was remanded to Baton Rouge, there to serve out the unexpired term of his enlistment.

The U. S. frigate *Raritan* was launched, according to announcement, at the Philadelphia navy-yard on Tuesday last.

A MARINE GENERAL COURT MARTIAL has been ordered to convene at Middletown, Connecticut, on Monday, the 10th July, for the trial of Brevet Lieut. Colonel WILLIAM H. FREEMAN, of said corps.

The court will be composed of—

Lieut. Col. SAMUEL MILLER, *President.*  
Bvt. Lieut. Col. S. EDMISTON WATSON,  
Major JOHN HARRIS,  
Captain THOMAS A. LINTON,  
Bvt. Major WILLIAM DULANY,  
Captain T. STANHOPE ENGLISH,  
Captain WARD MARSTON,  
Captain BENJAMIN MACOMBER,  
Captain A. N. BREVOORT,  
First Lieut. J. L. C. HARDY,  
First Lieut. GEORGE F. LINDSAY,  
First Lieut. FRANCIS C. HALL,  
First Lieut. N. SHEAPE WALDRON, *Members.*  
HENRY M. MORFIT, Esq., of Washington, *Judge Advocate.*

*From the New York Herald.*

## STEAMER UNION.

This unique and beautiful vessel, now lying off the battery, is eminently deserving of the attentive examination of scientific men and all other persons interested in naval architecture of steam navigation. The Union is propelled by Hunter's submerged horizontal wheels; and as she is the first vessel of any considerable tonnage into which they have been introduced, she may be considered an experimental vessel. We are happy to learn that she is entirely successful, and that the Secretary of the Navy, who recently made a passage in her, declared her to be so, and freely admitted that she had very far exceeded his most sanguine expectations.

The propeller is not the only novelty presented by the Union. Her form and construction are both new, and, contrary to the impressions received from her outward appearance, she has proved herself to be very dry, stiff, and weatherly, as well as a fast sailer. Her length is 185 feet, her greatest breadth 38 feet, and her burthen 1,040 tons. Her battery consists of four 8-inch Pajxhan guns, traversing on circles. Several improvements were pointed out in the mounting of these guns, to which are applied the newly-invented percussion lock, by James E. Hidden, of this city, which appears to be very superior to any hitherto brought to our notice. Not the least important improvement in the construction of these locks is the vent-stopper, and also the eccentric which is placed in the hammer, enabling it, after the explosion has taken place, to free the vent. This vent-stopper will effectually prevent the occurrence of those accidents, which not unfrequently happen in consequence of the vent not being properly served.

Among the advantages of Hunter's submerged propeller, we may mention that it displaces nearly its weight of water, hence it gravitates very slightly upon its shaft; thus revolving so easily, that when disconnected it offers but an inconsiderable resistance to the vessel's passage through the water when under sail.

As they are never thrown out of the water, their resistance to the engine is constant, hence the wear

and tear of the machinery is less; and as the power of the engine is placed in the line of the keel, the vessel is free from the very unpleasant vibratory sensation produced by the vertical engine. With this propeller a vessel is not liable to be "broached to," and should it become necessary to "lay to," the action of the lee wheel, in conjunction with a little after sail, will effectually prevent her falling off into the trough of the sea.

For freighting vessels upon our rivers, the submerged propeller doubles the tonnage of the vessel, and she may be laden to the water's edge, "or gunnel to," and still retain the powers of locomotion. This propeller cannot be injured by drift wood, and is of all others best adapted for ice boats. It offers, besides, economy in construction, as it obviates the necessity of guards or wheel-houses, and, as it does not disturb the surface, must inevitably supersede all other means of propulsion on canals.

As a powerfully efficient vessel of war, the merits of the "Union" are very obvious. Constantly retaining the power of locomotion, and possessed of such tremendous engines of destruction, she can, in many circumstances, be more formidable than a fleet of sailing vessels. She can conveniently carry fifteen to twenty days' fuel; but, if necessary, her capacity in that respect could be greatly enlarged. The crew consists of one hundred and twenty men, inclusive of her officers, and the arrangements for their comfort and convenience could not, we think, be surpassed.

The successful operation of this magnificent steamer redounds greatly to the credit of our naval architecture, and to the skill and genius of her constructor. She will remain here for some days, and visitors will be sure of receiving, from the polite and intelligent officers on board, every possible attention.

## NAVY.

June.

### ORDERS.

6 P. Mid. E. L. Winder, receiving-ship, Norfolk.  
 7—Lieut. A. R. Taliaferro, receiving-ship, Norfolk.  
 Master's Mate J. H. Polley, receiving-ship, Norfolk.  
 Lieut. E. Middleton, ship Decatur, Norfolk.  
 Lieut. G. Gansevoort, receiving-ship, Boston.  
 Mid. J. Downes, jr., receiving-ship, Boston.  
 Lieut. R. C. Cogdell, receiving-ship, N. Orleans.  
 Surg. H. S. Coulter, order to Vandalia revoked.  
 P. Mid. J. C. Henry, rendezvous, Philadelphia.  
 9—Lieut. W. L. Maury, brig Bainbridge, Norfolk.  
 10—Lieut. L. C. Sartori, steamer Missouri, Washington.  
 Mid. J. Dorsey Read, receiving-ship, Philadelp'a.  
 12 Lieut. Charles Thomas, brig Bainbridge.  
 Lieut. A. S. Baldwin, brig Bainbridge.  
 Chief Engineer John Faron, jr., steamer Missouri, *vice* Haswell, detached and waiting orders.  
 Mid. J. J. Pringle, steamer Missouri.  
 13—Lieut. S. S. Lee, ship Independence, New York.  
 Lieut. G. A. Prentiss, receiving-ship, Boston.  
 Lieut. G. Gansevoort, order to receiving-ship Boston revoked, on account of ill health.  
 Mid. W. H. Montgomery, receiving-ship Boston.

June.

### RESIGNATION.

10—Walter P. Harrison, midshipman.

## Naval Intelligence.

### U. S. VESSELS OF WAR REPORTED.

Steamer *Union*, Lieut. Comd't Hunter, arrived at Philadelphia on the 10th instant from New York, and would leave in a few days for Norfolk.

Brig *Oregon*, Lieut. Comd't Powell, arrived at Pensacola, May 31, from Tampa Bay. Officers and crew generally well.

HOME SQUADRON.—Brig *Bainbridge*, Lieut. Comd't Johnston, dropped down from the Norfolk navy-yard on Saturday to the naval anchorage.

Brig *Dolphin*, Comm'r Knight, at Sacrificios, May 14; not an individual sick on board.

The conducta, with the \$270,000 for the United States, reached Vera Cruz in safety on the 20th May. The *Dolphin* was to take it on board, and was expected to sail with it on the 23d ultimo for New Orleans, thence to Pensacola, and to a northern port.

AFRICAN SQUADRON.—Sloop *Saratoga*, Comm'r Tattnall, with Commodore Perry on board, sailed from New York on the 5th instant.

PACIFIC SQUADRON.—Sloop *Dale*, Comm'r Dornin, at Mazatlan, April 19, to sail on the 1st June for Valparaiso. All in excellent health.

Store-ship *Erie*, Lieut. Comd't Manning, arrived at Rio Janeiro on the 27th April.

BRAZIL SQUADRON.—Frigate *Columbia*, Captain E. R. Shubrick, senior officer commanding the squadron, at Rio Janeiro, April 24.

### May. ARRIVALS AT WASHINGTON.

30—Capt. H. McKavett, 8th infantry, Fuller's.  
 Lieut. J. H. Carleton, dragoons, Fuller's.

June.

6—Lieut. J. C. Terrell, 1st Infantry.  
 8—Major C. Thomas, Quartermaster, Fuller's.  
 10—Captain M. E. Merrill, 5th infy., Col. Dade's.  
 Lieut. T. H. Porter, 4th infantry, Mrs. Twigg's.  
 Capt. M. S. Howe, rifles, Gadsby's.  
 Col. J. Kearney, Top. Eng., F and 14th sts.

### PASSENGERS.

CHARLESTON, June 4, per steam-packet *C. Vanderbilt*, from Wilmington, Lieut. J. Noble and P. Mid. B. F. B. Hunter, of the navy. June 8, per steam-packet *Governor Dudley*, from Wilmington, Captain H. McKavett, of the army.

### Marriages.

At Fort Towson, Choctaw nation, on the 11th May, Lieut. THOMAS HENDRICKSON, U. S. army, to Miss SARAH D. BAILEY, sister of Dr. J. H. BAILEY, U. S. army.

At Fort Winnebago, Wisconsin Territory, on the 15th ultimo, Lieut. FREDEICK H. MASTEN, U. S. army, to CHARLOTTE ANN, daughter of Major SATERLEE CLARK, formerly of Utica.

On the 31st ultimo, in Caroline county, Va., Lieut. GABRIEL G. WILLIAMSON, of the U. S. navy, to Miss GABRIELLA WOOLFOLK.

At Salem, Mass., on the 6th inst., Lieut. HENRY FRENCH, U. S. navy, to HELEN MARIA, daughter of NATHAN ENDICOTT, Esq.

At Paterson, N. J., on the 6th inst., Dr. JOHN O'CONNOR BARCLAY, U. S. navy, to ANNE WILKS, daughter of the late M. W. COLLET, Esq.

ARMY AND NAVY CHRONICLE, for five years—from 1836 to 1840—ten volumes, half bound, and unbound; for sale, at \$12 50 per set, in sheets, or \$15 per set, bound. Any volume or number may be had separately.

Jan. 19—u'

B. HOMANS.

PRINTING of every description promptly and neatly executed at this office.